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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/602,288	06/24/2003	Burckhard Becker	200-80	1245
30448	7590	08/11/2006	EXAMINER	
AKERMAN SENTERFITT P.O. BOX 3188 WEST PALM BEACH, FL 33402-3188			KYLE, MICHAEL J	
			ART UNIT	PAPER NUMBER
			3677	

DATE MAILED: 08/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/602,288

Applicant(s)

BECKER ET AL.

Examiner

Michael J. Kyle

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 19731305 A1 ("DE '305") in view of Suska (U.S. Patent No. 4,475,266). DE '305 discloses a hinge comprising a first hinge arm (2b) and a second hinge arm (2a) with each hinge arm having a bore. The bore of the first hinge arm (see figures 6a, 6b) comprises a retaining zone (left most portion of the bore, with a constant diameter, 16) and a compensation zone (right hand portion of the bore in the figures, 17). The compensation zone has greater radial inner dimension than the retaining zone and is defined by an inner lining. DE '305 also discloses a hinge pin (4) and a shim member (90c). The shim member deforms and fills out any space between the hinge pin and inner lining. DE '305 fails to disclose a step within the bore. Additionally, the shim in DE '305 protrudes into the retaining zone.
3. Suska teaches a hinge assembly comprising two hinge arms (14, 18) with a bore extending through the arms. Suska further shows a hinge pin (20) and a shim (40, 42). The bore includes a step (at the lower end of 40, see figure 1) that acts as a seat for the shim (40, 42). The bore also includes a compensation zone (containing 40, 42) and a retaining zone (below 40, in figure 1). Providing a seat for a shim or bushing, positively and securely locates the shim or bushing in a bore. The retaining zone closely surrounds the hinge pin and the compensation

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zone selectively receives the shim (40, 42). The shim does not protrude into the retaining zone (see figure 1). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify DE '305 as taught by Suska, such that DE '305 includes a step between the compensation and retaining zones, in order to provide a seat for the shim member (90b) of DE '305. Providing a shim member will positively and securely located the shim in the bore. Additionally, by not allowing the shim to protrude into the retaining zone, any play in the hinge is reduced, due the close clearance in the retaining zone.

4. With respect to claim 2, the combination of DE '305 and Suska discloses the inner lining to be defined by a cone having an aperture angle between 0 and 90 degrees (see figures 6a, 6b in DE '305). The step (as taught by Suska) forms an angle of approximately 90 degrees with the inner lining.

5. With respect to claim 3, the combination of DE '305 and Suska shows a shim member (90c of DE '305) having an axial length greater than the distance between the step and an outer surface of the first hinge arm. Examiner notes that step will be located between the compensation and retaining zones. In figure 6b, DE '305 shows the shim member having an axial length that extends past this region.

6. With respect to claims 4-6, DE '305 discloses the hinge pin (4) to have a radial shoulder (8, in figure 1) resting on an inner surface of the second hinge arm. The shim member is made from a mechanically plastic material (DE '305, English abstract). The retaining zone is dimensioned so as to be capable of taking a maximum radial tensile load. Examiner notes that there is no structure claimed in the present application that makes the retaining zone capable of performing the claimed function. Because the retaining zone of DE '305 meets all the

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limitations of the claimed retaining zone, examiner asserts that the retaining zone of DE '305 is capable of performing the claimed function.

7. With respect to claim 7, DE '305 shows the hinge arms to be made from metal. Neither DE '305 nor Suska discloses the compensation zone to have an axial length that is not smaller than 50% of the axial length of the bore of the first hinge arm. However, applicant has not provided any criticality for this axial dimension of the compensation zone. No new or unexpected result appears to arise by changing the axial length of the compensation zone. Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the compensation zone of DE '305 so that the length is not less than 50% of the axial length of the bore of the first hinge, and no new or unexpected result is produced from such a modification.

8. With respect to claims 8 and 9, DE '305 discloses the shim member (90c) to have a front portion and an initial shape. The front portion is inserted into the retaining zone (see figure 6b) and has a final shape that is plastically deformed relative to the initial shape. The inner lining is defined by a cone having an aperture angle between 10 and 45 degrees. The step (as taught by Suska) would form an angle with this inner lining between 95 and 111.5 degrees.

9. With respect to claim 10, the combination of DE '305 and Suska shows the shim member (90c) to have a greater axial length than the distance between the step and an outer surface of the first hinge arm. Examiner notes that step of Suska will be located between the compensation and retaining zones. In figure 6b, DE '305 shows the shim member having an axial length that extends past this region.

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10. With respect to claims 12-15, DE '305 discloses a hinge comprising a first hinge arm (2b) and a second hinge arm (2a) with each hinge arm having a bore. The bore of the first hinge arm (see figures 6a, 6b) comprises a retaining zone (left most portion of the bore, with a constant diameter, 16) and a compensation zone (right hand portion of the bore in the figures, 17), one located behind the other. The compensation zone has greater radial inner dimension than the retaining zone and is defined by an inner lining. DE '305 also discloses a hinge pin (4) and a shim member (90c, or 9, 10 in figure 2). The shim member deforms and fills out any space between the hinge pin and inner lining. The embodiment of DE '305 shown in figure 2 shows the shim (9, 10) that does not reach the retaining zone. DE '305 fails to disclose a step within the bore.

11. Suska teaches a hinge assembly comprising two hinge arms (14, 18) with a bore extending through the arms. Suska further shows a hinge pin (20) and a shim (40, 42). The bore includes a step (at lower end of 40, in figure 1) extending in the radial direction and is contiguous to a retaining zone (below 40 in figure 1) that acts as a seat for the shim (40, 42). The step delimits a compensation zone (containing 40, 42) towards the retaining zone (around 40). Providing a seat for a shim or bushing, positively and securely locates the shim or bushing in a bore. The retaining zone closely surrounds the hinge pin and the compensation zone selectively receives the shim (40, 42). The shim does not protrude into the retaining zone (see figure 1). It would have been obvious to one having ordinary skill in the art at the time of the invention to modify DE '305 as taught by Suska, such that DE '305 includes a step between the compensation and retaining zones, in order to provide a seat for the shim member (90b) of DE '305. Providing a shim member will positively and securely locate the shim in the bore.

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Additionally, by not allowing the shim to protrude into the retaining zone, any play in the hinge is reduced, due the close clearance in the retaining zone. The combination would result in the step of Suska (at the lower end of 40) being implemented at the left side end of the compensation zone of DE '305. The shim would come to rest against the step and be supported by the step during axial insertion. The deformed shim member fills out space between the hinge pin, step and inner lining, and avoids radial play between the first hinge arm and the hinge pin.\

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over DE '305 in view of Suska as applied to claim 1 above, and further in view of Kempf (U.S. Patent No. 5,542,505). Neither DE '305 nor Suska explicitly discloses the use of LPDE for the shim member.

13. Kempf teaches a spring hinge with a hinge pin (42) that rotates in an enclosure (46). Examiner considers the enclosure to be analogous to the shim of DE '305 because it is subject to a relative rotation. The enclosure may be made from low-density polyethylene (LPDE) (column 4, lines 55-58). It's known to use LPDE for anti-friction purposes. It would have been obvious to one having ordinary skill in the art at the time of the invention to construct the shim of DE '305 from LDPE because of its known low friction properties.

Response to Arguments

14. Applicant's arguments filed May 30, 2006, have been fully considered but they are not persuasive. Applicant argues the step at the lower end of 40 in Suska does not act as a seat, because the step portion at flange 42 acts the seat. Examiner respectfully disagrees. While Suska describes the upper portion at flange 42 to function as a thrust bearing, this does not preclude the step at the lower end of 40 from also acting as a seat. From figures 1 and 2, it is

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seen the hinge pin is threaded at one end. This threaded connection places an axial force on the bushing 40, 42. The lower step prevents any deformation of the bushing that may occur from the axial loading, and functions to positively and definitely locate the bushing.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

16. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael J. Kyle whose telephone number is 571-272-7057. The examiner can normally be reached on Monday - Friday, 8:30 am - 5:00 pm.

18. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 571-272-7075. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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19. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

mk


ROBERT J. SANDY
PRIMARY EXAMINER